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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,692	07/22/2003	Shuichi Takeuchi	P23563	5336

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EXAMINER	
PHAN, JAMES	
ART UNIT	**PAPER NUMBER**
2872	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/623,692	TAKEUCHI ET AL.	
	Examiner	Art Unit	
	James Phan	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) *11-17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5,6,8 and 10* is/are rejected.

7)☒ Claim(s) *2-4,7 and 9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/22/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I including species (1) in the reply filed on 6/24/05 is acknowledged. The traversal is on the ground(s) that the restriction requirement is improperly made because the examiner fails to set forth proper grounds for restriction as outlined in MPEP 806.05, and that there would be no burden on the examiner if both species were searched and examined together. This is not found persuasive because:

(A) MPEP sections 806.05(a)-806.5(i) only provide most common pairs of related inventions. Two or more related inventions which are not related in such a way as set forth in one of sections 806.05(a)-806.05(i) are not necessarily not patentably distinct from each other because each of the related invention has a patentably distinct structure. For an example, the elected invention of Group I including claim 7 directed to an optical scanning system which requires a lens having a particular radius of curvature and arrangement so as to satisfy the condition (1) in order to form a beam spot on a surface to be scanned; the non-elected invention II including claim 14 directed to an optical scanning system which requires a particular scanning lens having an anamorphic aspherical surface and a toric surface, and a compensation lens having a particular aspherical surface defined by a two-dimensional polynomial expression for compensating curvature

of field; and the non-elected invention III including claim 17 directed to a multi-beam optical scanning system which requires the use of a plurality of light beams, a scanning lens and a plurality of compensation lenses for forming a plurality of beam spots on respective surfaces to be scanned and for compensating curvature of field, wherein optical paths of the plurality of beams between the polygonal mirror and the scanning lens are symmetrical with respect to an optical axis of the scanning lens. As illustrated above, the structure defined by invention I is not defined by inventions II and III, the structure defined by invention II is not defined by inventions I and III, and the structure defined by invention IIII is not defined by inventions I and II. Furthermore, each of the inventions having at least a distinct function, i.e. in order to prevent ghost images formed on the surface(s) to be scanned, the elected invention I including species (1) is disclosed to have a beam reflected by the at least one lens surface proceeds above a top surface of the polygon mirror (Figs. 4-7 and first and second examples), and the non-elected invention II is disclosed to have a beam reflected by the at least one lens surface incident on a shield member 14 (Figs. 8-9 and third example); and in order to form color images, the non-elected invention III is disclosed to have a plurality of beams simultaneously scanned on a respective surfaces to be scanned (Figs. 1-2).

Each of the inventions contains a divergent subject matter and has different classification as identified in the restriction requirement. Also, the fields of search are not coextensive. For examples, the elected invention I requires at least a search in class 359, subclass 205, and class 347, subclasses 258-261, while the non-elected inventions II and III do not; the non-elected inventions II requires at least a search in class 359, subclasses 206-207, 662, 711 and 717, while the elected invention I and the non-elected invention III do not; and the non-elected inventions III requires at least a search in class 359, subclass 204, and class 347, subclasses 232-233 and 243-244, while the elected invention I and the non-elected invention II do not. Therefore, if all inventions were searched and examined together, a serious burden would impose on the examiner.

(B) Although the elected species (1) including claim 10 and the non-elected species (2) including claim 11 are classified in the same class and subclass, each of the patentably distinct feature recited in each of the claims requires a separate search; and thus, a serious burden would impose on the examiner if both species were searched and examined together.

The requirement is still deemed proper and is therefore made **FINAL**.

Claims 11-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 10/22/03 has been considered by the examiner.

Additional Prior Art Cited

Each of Iwasaki, Omura et al and Iizuka et al discloses an optical scanning system having an imaging optical system wherein at least one lens surface of the imaging optical system is configured such that a beam reflected therefrom is not incident on the reflective surface of the polygon mirror.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5-6, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Omura et al.

In regard to claims 1 and 5, Omura et al discloses a scanning optical system comprising a light source (12) that emits light beam L; a polygon mirror (66); and an imaging optical system (70) having a plastic lens (72), wherein the emitted light

beam incident on the polygon mirror is inclined in the auxiliary scanning direction (sub-scanning direction) (see Figs. 1A and 2A), and wherein a light beam (part of the light beam L) reflected from the first surface or/and the second surface of the plastic lens is not incident on reflective surfaces of the polygon mirror (column 9, lines 30-36).

In regard to claim 6, see column 13, claim 4 or 5.

In regard to claims 8 and 10, Omura et al further discloses particular lens surfaces and arrangement of the plastic lens for preventing ghost images formed on the scanning surface by a light beam x that is reflected by the first and second surfaces of the plastic lens (column 9, line 45, to column 10, line 3). Thus, when the part of the light beam L (light beam x) reflected by the second surface of the plastic lens, the light beam x is reflected by the first surface again, and a portion of the reflected light beam x inherently proceeds toward an outside region such as above the top of the polygon mirror because the first surface of the plastic lens having a convex surface in the auxiliary scanning direction and because the plastic lens is arranged at a position higher than the top surface of and inclined to the polygon mirror. See Fig. 1B. Also, with the arrangement of the optical scanning system as shown in Fig. 1B and the particular lens surfaces of the plastic lens (72),

a light beam or part of the light beam L is inherently reflected by the first lens surface of the plastic lens and proceeds above the top of the polygon mirror.

Allowable Subject Matter

Claims 2-4, 7 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the cited prior art does not teach or suggest a scanning optical system having an arrangement of lens as recited in claim 2, and having satisfied the conditions (1) and (2) as defined in claims 7 and 9, respectively, in combination with the remaining features recited in the claims. Specifically, there is no motivation to modify each of or combine Omura et al and Iwasaki so as to satisfy the claimed invention. Claims 3-4 are dependent on claim 2 and thus allowable at least for the same reason.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Phan whose telephone number is (571) 272-2317. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James Phan
Primary Examiner
Art Unit 2872

JP
9/1/05